AMENDMENTS TO THE CLAIMS

Claim 1. (Canceled)

Claim 2. (Currently Amended)

A coding device comprising:

a coder for coding an external input signal in a macroblock unit;

a first storing unit for storing a code output from said coder;

a second storing unit for storing an output from said first storing unit; and

a code volume controller for controlling the transfer amount of said code stored in said first storing unit to said second storing unit based on a code volume of said code obtained by said coder such that a length of a video packet constituted by said code is predetermined length or less;

wherein the code volume controller calculates a present code volume (Sc) for each video object (VOP) and decides whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between the present code volume (Sc) and a minimum code volume (Tmin);

wherein, if decided, said code volume controller controls storage of a stuffing of a video packet in said second storing unit based on ~~a~~ said minimum code volume obtained for each ~~video object plane (VOP)~~ VOP unit image constituted by a video packet which is required for coding said unit image, such that said second storing unit does not cause an underflow.

Claim 3. (Previously Presented)

The coding device according to claim 2, wherein

said code volume controller determines a minimum code volume Tmin to satisfy a following equation:

$$Tmin \geq 2 \cdot Rp - B$$

$$Rp = R/F$$

wherein a bit count read from said second storing unit in a unit image is represented by Rp, an occupancy in said second storing unit is represented by B, a bit rate read from said second storing unit is represented by R, and a rate of a unit image to be coded is represented by F.

Claim 4. (Previously Presented)

The coding device according to claim 3, wherein

said bit rate R read from said second storing is variable.

Claim 5. (Canceled)

Claim 6. (Canceled)

Claim 7. (Previously Presented)

The coding device according to claim 2, wherein

said code volume controller determines a minimum code volume Tmin based on a following equation or a value having a result equivalent to a result of said equation:

$$Tmin = \max (2 \cdot Rp - B, vbv\_bits + 2 \cdot Rp - vbv\_bs)$$

$$Rp = R/F$$

wherein a bit count read from said second storing unit in a unit image is represented by Rp, an occupancy in said second storing unit is represented by B, an occupancy of a VBV buffer in a last unit image is represented by vbv_bits, a size of said VBV buffer is represented by vbv_bs, a bit rate read from said second storing unit is represented by R, and a rate of a unit image to be coded is represented by F.

Claim 8. (Previously Presented)

The coding device according to claim 7, wherein said bit rate R read from said second storing unit is variable.

Claim 9. (Previously Presented)

The coding device according to claim 2, wherein

said code volume controller inserts a stuffing into a video packet while a first relationship is satisfied when a present code volume of a unit image including a last coded macroblock constituting said unit image is smaller than said minimum code volume Tmin of said unit image and a number M of

macroblocks to be coded subsequently to said last coded macroblock, a predetermined length VPlen of said video packet, said minimum code volume Tmin and said present code volume Sc have said first relationship:

$M \cdot VPlen < Tmin - Sc$,

said code volume controller constitutes a new video packet next to said video packet by inserting a macroblock next to said last coded macroblock without inserting a stuffing into said video packet, when said first relationship is not established and when said number M of macroblocks, said length VPlen of video packet, said minimum code volume Tmin and said present code volume Sc have a second relationship:

$(M - 1) \cdot VPlen < Tmin - Sc$.

Claim 10. (Canceled)

Claim 11. (Currently Amended)

A coding method comprising the steps of:

(a) coding an external input signal in a macroblock unit;

(b) storing a code obtained at said step (a);

(c) controlling an output of said code stored at said step (b) such that a length of a video packet constituted by said code obtained at said step (a) is a predetermined length or less based on a code volume of said code, wherein a present code volume (Sc) is calculated for each video object plane (VOP) and a

decision is made as to whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between the present code volume (Sc) and a minimum code volume (Tmin); and

(d) storing said output controlled by said step (c), wherein, if decided,

said step (c) serves to control storage of a stuffing of a video packet at said step (d) based on said ~~a~~ minimum code volume obtained for each video object plane (VOP) unit image constituted by a video packet which is required for coding said unit image.

Claim 12. (Original)

The coding method according to claim 11, wherein

said step (c) serves to determine a minimum code volume Tmin to satisfy a following equation:

$$Tmin \geq 2 \cdot Rp - B$$

$$Rp = R/F$$

wherein a bit count read by said step (d) in a unit image is represented by Rp, an occupancy in said step (d) is represented by B, a bit rate read by said step (d) is represented by R, and a rate of a unit image to be coded is represented by F.

Claim 13. (Original)

The coding method according to claim 12, wherein

said bit rate R at which a code stored at said step (d) is read is variable.

Claim 14. (Canceled)

Claim 15. (Canceled)

Claim 16. (Original)

The coding method according to claim 11, wherein

said step (c) determines a minimum code volume Tmin based on a following equation or a value having a result equivalent to a result of said equation:

$$Tmin = \max (2 \cdot Rp - B, vbv\_bits + 2 \cdot Rp - vbv\_bs)$$

$$Rp = R/F$$

wherein a bit count read by said step (d) in a unit image is represented by Rp, an occupancy in said step (d) is represented by B, an occupancy of a VBV buffer in a last unit image is represented by vbv_bits, a size of said VBV buffer is represented by vbv_bs, a bit rate read by said step (d) is represented by R, and a rate of a unit image to be coded is represented by F.

Claim 17. (Original)

The coding method according to claim 16, wherein

said bit rate R at which a code stored at said step (d) is read is variable.

Claim 18. (Previously Presented)

The coding method according to claim 11, wherein

said step (c) serves to insert a stuffing into a video packet while a first relationship is satisfied when a present code volume of a unit image including a last coded macroblock constituting said unit image is smaller than said minimum code volume Tmin of said unit image and a number M of macroblocks to be coded subsequently to said last coded macroblock, a predetermined length VPlen of said video packet, said minimum code volume Tmin and a present code volume Sc have a first relationship: M • VPlen Tmin – Sc,

said code volume controlling step serves to constitute a new video packet next to said video packet by inserting a macroblock next to said last coded macroblock without inserting a stuffing into said video packet, when said first relationship is not established and when said number M of macroblocks, said length VPlen of a video packet, said minimum code volume Tmin and said present code volume Sc have a second relationship: (M – 1) • VPlen < Tmin – Sc.

Claim 19. (Currently Amended)

A video signal coding apparatus, comprising:

a video coder that codes a video signal as a video packet;

a first storage unit operatively connected to said video coder and stores said coded video signal;

a second storage unit operatively connected to said first storage unit and stores an output from said first storage unit; and

a control volume controller, operatively connected to said video coder, first storage unit and said second storage unit, said control volume controller determining a minimum code volume (Tmin) and a present code volume (Sc) for each video object plane (VOP) unit image of said video packet, the control volume controller determining whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between said present code volume (Sc) and said minimum code volume (Tmin) and controlling a break of the video packet and the insertion of a stuffing such that a said present code volume (Sc) of the VOP is not smaller than said minimum code volume (Tmin).

Claim 20. (Currently Amended)

A method for coding a video signal, comprising:

coding said video signal as a video packet, by a video coder;

storing said encoded video signal in a first storage unit operatively connected to said video coder;

storing an output of said first storage unit in a second storage unit operatively connected to said first storage unit; and

determining, by a control volume controller operatively connected to said video coder, first storage unit and said second storage unit, a minimum code volume (Tmin) and a present code volume (Sc) for each video object plane (VOP) unit image of said video packet, the control volume controller determining whether a stuffing is to be inserted into said video packet or a new video packet constituted, based on a relationship between said present code volume (Sc) and said minimum code volume (Tmin) and controlling a break of the video packet and the insertion of a stuffing such that ~~a~~ said present code volume Sc of the VOP is not smaller than said minimum code volume (Tmin).